

Remarks

Reconsideration and reversal of the rejections expressed in the Office Action of February 6, 2007 are respectfully contended in view of the following remarks and the application as amended. The present invention generally relates to a method for cleaning of an integrated circuit substrate having thereon a residue of by-products of a high-k dielectric etch process, which comprises removing the residue by a sequential application on the substrate of (a) a first aqueous composition comprising hydrogen fluoride, followed by (b) a second composition comprising a mixture of hydrogen peroxide with a compound selected from the group consisting of ammonium hydroxide, hydrochloric acid and sulfuric acid.

Claims 1-4, 6 and 7 were rejected under 35 U.S.C. §112, first and second paragraphs. New claims 19-33 have been added by this Amendment and Response in order to overcome these rejections.

Claims 1-4, 6 and 7 were rejected under 35 U.S.C. §102(e) as being anticipated by Barnett et al. (US 2005/0070120), while claims 1, 2, 4 and 7 were rejected under 35 U.S.C. §102(e) as being anticipated by Brask et al. (US 2005/0048794). In order to enhance the prosecution of the present application, a Declaration under 37 CFR 1.131 was previously submitted, which established that the present invention was reduced to practice prior to the August 28, 2003 filing dates of each reference. As noted in the Exhibit attached to the Declaration, "several chemical steps" are part of the present invention, with the particular chemical treatments listed in order, below the appearance of such statement. Nonetheless, the claims as amended overcome these rejections, in that there is no teaching or suggestion in the references of the particular treatment aspects as presently claimed. Furthermore, the noted Handbook of Semiconductor Wafer Cleaning Technology (mentioned in the Office Action, but not relied upon for any rejection) gives merely a general overview of the state of the art, and provides no suggestion of the particular process steps and related aspects of the invention as presently claimed. Therefore, these rejections are overcome as well.

For all of the above reasons, it is respectfully contended that the solicited claims define patentable subject matter. Reconsideration and reversal of the rejections expressed in the Office Action of February 6, 2007 are respectfully submitted. The Examiner is invited to call the undersigned if any questions arise during the course of reconsideration of this matter.

Respectfully submitted,

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